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Patterson Associates, Incorporated

Environmental Consultants

December 26, 1986

153788

Mr. Sandy Silverstein, Manager
Energy and Environmental Affairs
Cerro Copper Products Co.
P.O. Box 681
East St. Louis, IL 62202

Dear Sandy:

Enclosed is our preliminary report on the Cerro flows and pollutant discharge values. The report should be considered a draft, and is incomplete. For these reasons, I do not provide the "Professional Certification" required by the pretreatment regulations. I also recommend that Cerro not provide to EPA the "Compliance Certification" also required by the regs. The draft status of the enclosure is because the calculations presented therein must be rechecked, to ensure their accuracy.

The incomplete nature of the report is two-fold. First, in calculating monthly average discharge levels (lbs/day), I was not able to close pollutant mass balances for the Metal Molding & Casting, and (at least for lead) for the Copper Forming activities. Secondly, due to the uncertainties arising from the lack of ability to close the mass balances, plus the complexity of calculating maximum day discharge levels, no data are provided for the maximum day discharges. These calculations are worthless, in any event, until the average discharge mass balances can be resolved.

The report is presented in four sections, each discussed below:

I. Using the promulgated PSES discharge limits, and the Cerro production rates reported to EPA, I have calculated for each Category, by Subcategory and Category Totals, the maximum day and monthly average allowable discharge limits of the process wastewater pollutants. These are the limits which Cerro must achieve to comply with the PSES. Two caveats. Nonferrous Metals is zero discharge, but I have used in subsequent (Section IV) calculations the three pollutants proposed by EPA to be limited in their interim rulemaking. Further, per our discussion last week, I have used the total production rate for extrusion plus piercing as the production rate for Copper Forming-(d) Solution Heat Treatment.

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II. The sewer flow protocols are presented to allow others to follow the logic used in developing the process wastewater discharge volumes presented in Section III. The flow protocols reflect our meeting last week with Larry Oliver, and the decisions which we made at that time. Please note that I have assigned 5% of the flow entering Station 17-C to the air pollution scrubber discharge from the Nonferrous Metals Secondary Copper operations.

III. The average daily and daily maximum flow calculations are presented in this Section, based upon the protocols described in Section II. For Metal Molding & Casting, we are able to calculate the flow distribution by subcategory (but there may be errors here as indicated by the failure of the pollutant mass balances to close). For Nonferrous Metals, we can also calculate a fairly detailed breakdown of flows. There are no applicable subcategories, since the PSES are zero discharge for the whole category. For Copper Forming, we can only define the flows into (a) those associated with Tube Mill No. 2, and (b) those associated with the main Tube Mills area. Due to the interconnected nature of the sewer system entering, across, and exiting this latter area, there is a fairly high degree of uncertainty. Also as you will note in Section IV, I was unable to close the mass balance on at least lead for this geographical/categorical area.

IV. The material in this Section addresses the Cerro mass discharges of process wastewater pollutants. Please note that the flows used for these calculations are <u>total</u> flows at the pertinent sampling points, times total pollutant concentrations. This is because the noncontact flows which intermingle ahead of the sampling points must be presumed to contain no regulated pollutants, and to therefore act only by dilution. Further, due to the complex nature of the sewer system, flows from certain activities must be calculated by difference. This has resulted in some problems, as described previously, and we will have to sort these problems out. We may be able to do this by a more detailed scrutiny of the whole data base, or we may have to perform additional site studies (e.g. dye tests, etc.) to resolve the conflicts. We have discussed this possibility from the beginning of the Cerro wastewater characterization program.

I will be in Colorado until Monday, January 12th. My telephone number is (303) 468-8227, and I expect that you, Dick Kissel, and I may want to discuss where we go from here regarding submittals to the EPA. I am not inclined to submit much at this point, particularly Section IV. Frankly, it could take 30-45 days to sort out the present uncertainties, depending upon whether we need to perform additional site studies.

However, before defining and initiating such studies, I want to recheck the calculations, plus further evaluate the full data base. Due to my travel schedule, this cannot commence until mid-January.

Cordially yours,

J. W. Patterson, Ph.D.

JWP:aw
Encl.
cc: Paul Tandler
Dick Kissel

DRAFT

CERRO COPPER PRODUCTS COMPANY SAUGET, ILLINOIS

PSES LIMITATIONS, FLOWS, AND POLLUTANT DISCHARGE LEVELS

METAL MOLDING & CASTING NONFERROUS METALS COPPER FORMING

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